

Notice of Allowability

Application No.

09/841,102

Examiner

David E. England

Applicant(s)

SUZUKI ET AL.

Art Unit

2143

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/12/2007.
2. ☒ The allowed claim(s) is/are 1,2,4-8 and 10-14.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09841102.
3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Reasons for Allowance

1. The following is an examiner's statement of reasons for allowance: the closest prior art of record (Voth U.S. Patent No. 6351821, Circo 4677614 and Ando et al. U.S. Patent No. 61852174) does not teach nor suggest in detail a periodic control synchronizing system for synchronizing periodic control between a controller connected in a network and devices connected to said network, wherein said controller includes a first global timer and each of said devices comprises a respective second global timer controlled by said controller through said network, each of said devices further including an operation period timer which generates a synchronizing time for synchronizing periodic control of said device; and a timer synchronizing unit which determines a first time difference between a global time, indicated by said second global timer of said device, at the synchronizing time, and a synchronizing time indicated by said first global timer, and determines a timer correction value of said operation period timer, based on the first time difference, wherein said operation period timer is corrected by said timer synchronizing unit, based on the timer correction value, at the synchronizing time,
2. and a controller includes a first global timer; a control period timer which generates a control period for periodic control of said controller; a time stamp providing unit which provides a periodic transfer packet with a time stamp showing a synchronizing time of the control period, indicated by said control period timer, using global time indicated by said first global timer; and a transmitting unit which transmits the periodic transfer packet provided with the time stamp to

said devices, and each of said devices includes a second global timer controlled through said network; a periodic control unit which synchronizes operation period of said device with the control period using the synchronizing time of the periodic control, indicated by the time stamp of the periodic transfer packet transmitted by said transmitting unit, and global time indicated by said second global timer; an operation period timer which generates a synchronizing time for synchronizing periodic control of said device; and a comparing unit which compares the synchronizing time of the periodic control, indicated by the time stamp of the periodic transfer packet transmitted by said transmitting unit, and the global time indicated by said second global timer, determines a time difference between the synchronizing time of the periodic control, indicated by the time stamp, and the global time indicated by said second global timer, and determines a timer correction value of said operation control period timer based on the time difference, wherein said operation period timer is corrected by said comparing unit, based on the timer correction value, at the synchronizing time,” as argued by the Applicant (see Remarks dated 10/12/2007, pages 9 – 12; Specification as of 07/01/2005, pages 22 – 38; and Drawings dated 02/22/2006, Figures 3 – 15 of Applicant’s enabling portions of the specification and drawings).

3. Neither Voth, Circo and Ando, teach alone or in combination or suggests the feature of a comparing unit, time stamp providing unit and a timer synchronizing unit that utilized all the functions of determining the time shift that occurs in a network when synchronizing devices to a master clock. Furthermore, the multiple determinations of time differences between the components of the controller and the devices are not shown in the prior art in the way they

communicate to each other, when determining the first time difference and the timer correction value. Also, the utilization of the timestamp providing unit, in conjunction with the periodic control unit and the comparing unit as it is used to determine the time difference between the synchronizing time of the periodic control, indicated by the time stamp and the global time indicated by the second global timer and determining a timer correction value of said periodic control period timer is not taught in the prior art of Circo or Ando as is taught in the Applicant's specification and claimed.

4. The dependent claims further limit the independent claims and are considered allowable on the same basis as the independent claim as well as for the further limitations set forth. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. Claims 1, 2, 4-8 and 10-14 are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David E. England whose telephone number is 571-272-3912. The examiner can normally be reached on Mon-Thur, 7:00-5:00.

Application/Control Number:
09/841,102
Art Unit: 2143

Page 5

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

David E. England
Examiner
Art Unit 2143

DE *DE*